

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently Amended)** A method for forming a two-dimensional ordered array of proteins, comprising:

contacting a population of proteins with an gas-aqueous interface;

laterally compressing said population to an appropriate pressure, such that an two-dimensional ordered array of said proteins is formed at said interface, ~~wherein said two-dimensional ordered array has a diameter greater than 25 μ m.~~

2. **(Cancelled).**

3. **(Previously Presented)** The method of claim 64, wherein said amphiphilic molecule comprises a protein.

4. **(Currently Amended)** The method of claim 1 ~~or 3~~, wherein said protein is a membrane protein, a cellular receptor, an orphan receptor, receptor tyrosine kinase, an EPH receptor, an ion channel, a cytokine receptor, an multisubunit immune recognition receptor, a chemokine receptor, a growth factor receptor, or a G-protein coupled receptor.

5. **(Currently Amended)** The method of claim 1 ~~or 3~~, wherein said protein is contacted with said interface in the presence of lipids.

6. **(Currently Amended)** The method of claim 1 ~~or 3~~, further comprising applying said proteins to said interface in proteoliposomes, liposomes, or a cellular membrane.

7. **(Cancelled).**

8. **(Currently Amended)** The method of claim 1 ~~or 64~~, wherein said interface is a airgas-aqueous interface.

Claims 9-62 **(Cancelled).**

63. (Previously Presented) A method for forming a two- or three-dimensional ordered array of membrane proteins, comprising:

contacting a population of membrane proteins with a gas-aqueous interface, wherein said population of membrane proteins are applied to said interface in a proteoliposome;

laterally compressing said population to an appropriate pressure, such that a two- or three-dimensional ordered array of said membrane proteins is formed at said gas-aqueous interface.

64. (Currently Amended) A method for forming a three-dimensional ordered array of amphiphilic molecules, comprising:

contacting a population of amphiphilic molecules with a gas-aqueous interface;

laterally compressing said population to an appropriate pressure, such that a three-dimensional ordered array of said amphiphilic molecules is formed at said interface, wherein said appropriate pressure is above a critical density point for the formation of a two-dimensional ordered array of said amphiphilic molecules.

Claims 65-66. **(Cancelled).**

67. (Previously Presented) The method of claim 1, wherein said two-dimensional ordered array is a two-dimensional crystalline array.

68. (Previously Presented) The method of claim 64, wherein said three-dimensional ordered array is a three-dimensional crystalline array.

69. (New) The method of claim 3, wherein said protein is a membrane protein, a cellular receptor, an orphan receptor, receptor tyrosine kinase, an EPH receptor, an ion channel, a cytokine receptor, an multisubunit immune recognition receptor, a chemokine receptor, a growth factor receptor, or a G-protein coupled receptor.

70. (New) The method of claim 3, wherein said protein is contacted with said interface in the presence of lipids.

71. (New) The method of claim 3, further comprising applying said proteins to said interface in proteoliposomes, liposomes, or a cellular membrane.

72. (New) A method for forming a two- or three-dimensional ordered array of orphan receptor, comprising:

contacting a population of orphan receptor with an interface;

laterally compressing said population to an appropriate pressure, such that a two- or three-dimensional ordered array of said orphan receptor is formed at said interface.

73. (New) A method for forming a two- or three-dimensional ordered array of proteins, comprising:

contacting a population of proteins with an interface;

laterally compressing said population to an appropriate pressure, such that a two- or three-dimensional ordered array of said proteins is formed at said interface, wherein said proteins are not soluble in water.